



HO

Oil burner Nozzle for higher viscosity oils



OIL BURNER NOZZLE

The HO series is offered to meet the requirement for Nozzles to be used on higher viscosity oils at elevated operating pressures. It is a redesignation of the PLO-HO, PL-HO and R-HO series to simplify specifications for ordering. These Nozzles (as with all Monarch Nozzles) are stamped with their nominal flow rate at 100 PSIG on #2 fuel oil and are available in capacity sizes from 1.00 through 100.0 GPH.

200 PSI: When regular light oil Nozzles are used on more viscous oil, their sprays tend to „flutter“, they produce a narrower spray angle and often develop streaks in the spray. Accordingly, the standard „HO“ Nozzles are specially tested for spray quality and rated for spray angle at a pressure of 200 PSIG (14 bars) on 70 SSU (13 Centistoke) operating viscosity oil. This special testing assures that the Nozzles will perform properly under heavy oil operating conditions. The spray angle stamped on the Nozzle is the nominal spray angle at 200 PSIG operating pressure.

430 PSI: For very high pressure operation, the HO Nozzles are also tested for spray angle and spray quality at 430 PSIG (30 bars) on 70 SSU operating viscosity oil. The special additional testing is necessary to be sure that no streaks, voids, or flutter appear in the spray at these pressures that would not appear at 200 PSIG. The spray angle stamped on the Nozzle is the nominal Spray Angle at 430 PSIG operating pressure.

The accompanying chart shows approximate flow rates when operating from 200 PSIG through 450 PSIG on 70 SSU operating viscosity oil, specific gravity .846. Note that the nominal flow rates stamped on the Nozzles are based on 100 PSIG using U.S. No. 2 fuel oil, subject to a flow tolerance of plus or minus 5%. Flow rates shown at 300 PSIG on 70 SSU operating viscosity oil are from actual tests. Flow rates at higher and lower pressures are rates predicted from the 300 PSIG data. Actual flow rates may vary, depending on exact operating conditions.

Nozzles for operation at 200 PSIG are available in 45°, 60° and 80° spray angles in sizes of 2.25 GPH up to, and including 45.00 GPH, and sizes of 50.00 GPH and up are available only in 60° and 80°. Nozzles for operation at 430 PSIG are available in 45°, 60° and 80° in sizes 1.00 GPH up to and including 45.00 GPH. Sizes of 50.00 GPH and up are available only in 80°.

Strainers are not included with Nozzles but 120 mesh Monel Strainers may be ordered separately. Strainers are specifically not recommended for use on sizes over 50.00 GPH, as restriction may occur.

MATERIAL

Models completely made of brass
416 SS would be available per request

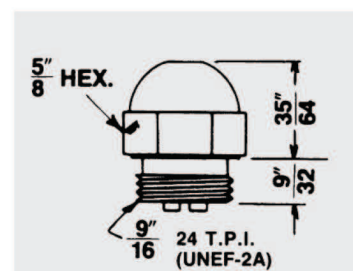
PIPE CONNECTION

1/8 "NPT male

SPRAY ANGLES

"M": 80 °

"MW": 90 °, 120 °, 160 °



CAPACITIES & DIMENSIONS

Flow Rates

NOMINAL RATING #2 FUEL OIL*	U.S. Gallons Per Hour on 70 SSU Operatin Viscosity Oil Line Pressure (PSIG)						
	200	250	300	350	400	430	450
1.00	—	—	1.91	2.06	2.21	2.29	2.34
1.20	—	—	2.14	2.31	2.47	2.56	2.62
1.25	-	-	2.45	2.60	2.80	2.90	3.00
1.35	-	-	2.70	2.90	3.10	3.25	3.30
1.50	-	-	2.90	3.15	3.35	3.50	3.55
1.65	-	-	3.15	3.40	3.65	3.80	3.85
1.50	-	-	3.50	3.80	4.05	4.20	4.30
2.00	2.90	3.25	3.55	3.85	4.10	4.25	4.35
2.25	3.90	4.35	4.75	5.15	5.50	5.70	5.80
2.50	4.10	4.60	5.05	5.45	5.80	6.00	6.15
3.0	4.85	5.45	5.95	6.45	6.85	7.10	7.30
3.50	5.80	6.45	7.10	7.65	8.20	8.50	8.65
4.00	6.60	7.40	8.10	8.75	9.35	9.70	9.95
4.50	6.75	7.55	8.25	8.90	9.55	9.90	10.10
5.00	7.45	8.35	9.15	9.85	10.55	10.95	11.20
5.50	8.3	9.3	10.2	11.0	11.8	12.2	12.5
6.00	9.5	10.6	11.6	12.5	13.4	13.9	14.2
6.50	10.0	11.3	12.3	13.3	14.2	14.8	15.1
7.00	10.6	11.8	12.9	14.0	14.9	15.5	15.9
7.50	11.3	12.6	13.9	15.0	16.0	16.6	17.0
8.00	11.4	12.8	14.0	15.1	16.2	16.8	17.1
8.50	11.7	13.1	14.3	15.4	16.5	17.1	17.5
9.00	12.7	14.1	15.5	16.7	17.9	18.6	19.0
9.50	13.6	15.2	16.6	17.9	19.2	19.9	20.3
10.50	14.1	15.8	17.3	18.7	20.0	20.7	21.2
12.00	15.8	17.7	19.4	20.9	22.4	23.2	23.7
13.50	18.3	20.4	22.4	24.2	25.9	26.8	27.4
15.50	21.2	23.7	26.0	28.1	30.0	31.1	31.8
17.50	25.5	28.5	31.2	33.7	36.1	37.4	38.2
19.50	27.3	30.2	33.1	35.8	38.2	39.7	40.6
21.50	30.3	33.5	36.7	39.7	42.4	44.0	45.0
24.0	35.1	39.3	43.0	46.5	49.7	51.5	52.7
28.0	41.7	46.6	51.0	55.1	58.9	61.1	62.5
30.0	45.0	50.3	55.1	59.5	63.6	66.0	67.5
35.0	49.7	55.5	60.8	65.7	70.2	72.8	74.5
40.0	59.1	66.1	72.4	78.2	83.6	86.6	88.6
45.0	65.2	72.9	79.9	86.3	92.2	95.6	97.8
50.0	66.5	74.4	81.5	88.0	94.1	97.6	99.8
55.0	74.5	83.5	91.5	99.0	105.5	107.5	112.0
60.0	85.5	95.5	104.5	113.0	120.5	125.0	128.0
70.0	97.5	107.0	119.5	129.0	137.5	143.0	146.0
80.0	107.5	120.5	132.0	142.5	152.5	158.0	161.5
90.0	119.0	133.0	145.5	157.0	168.0	174.0	178.0
100.0	135.0	151.0	165.0	178.5	190.5	198.0	202.5

*Test Oil Specifications: U.S. No. 2 FUEL OIL: 4-36 SSU @ 100°F. 32-38 API Gravity @ 60°F

Flow Tolerance: +/- 5% from stamped nominal rating @ 100 PSIG on U.S. No 2 Fuel Oil as specified at left